INVESTIGATION OF NEUROGENIC MECHANISM OF DYNAMIC-BEHAVIOURAL ACTIVITY OF BENDAZOL

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Bendazol (dibazol) – derivation of benzimidazole has been widely used in medical research since the second half of the 20th century. This preparation has direct myotropic effect, it serves as anticonvulsive, immunomodulatory, antiagregate, adaptogenic, actoprotector remedy, that's why it is used in therapy, rehabilitation, prophylaxis in practical medicine. However there is not enough information in scientific literature about toxicity of the preparation. In our previous works it was proved that bendazol can be regarded as little toxic. It was also established that safe therapeutic range of bendazol covers 2 levels (from 1,25 to 40 mg/kg), that as regarding to LD_{50} forms 62-64 c.u. Toxic range of the preparation (from 160 to 640 mg/kg) corresponds to 13-15 c.u. with domination of cholinergic trophotropic effect.

The aim of our work is to investigate possible mechanism of the influence of bendazol on cholinergic structures of the central nervous system.

The experiments were carried out on 60 male-rats with the mass of 200-220 gr. The animals were kept according to the rules and the experiments were carried out keeping the rules of the International Convention on the protection of the vertebrates (Strasburg, 1986).

To ascertain availability of cholinomimetic ingredient in mechanism of bendazol's activity, we investigated its influences on M- и H-cholinoreceptive structures and its ability to change the duration of nicotine tremor and arecoline hyperkinesis that is caused by administration of the typical cholinomimetics – nicotine and arecoline. In an hour after inserting pharmacological agents, that are being used while testing, the animals got bendazol intragastrically in dozes of 5 and 160 mg/kg. The group animals used as a control one got solvent (distilled water) intragastrically in appropriate dozes.

Experiment with arecoline showed that preliminary inserting bendazol to the rats in dozes of 5 and 160 mg/kg prolonged the latent period of hyperkinesis if the doze is 5 mg/kg but shortened its beginning if the doze is160 mg/kg. At the same time the duration of hyperkinesis reduced depending on the doze.

The main H- cholinergic activity of the medication was evaluated according to its influence on the nicotine tremor, convulsive activity and depression of the inspiratory center. It was established that bendazol reduces the beginning of the nicotine tremor, increases its duration twice, stimulates the inspiratory center and shows little influence on the convulsive activity if the doze is 5 mg/kg. On the contrary if the doze is 160 mg/kg, the latent period of the beginning of tremor reduces if its duration increases by 120 %, depression of the inspiratory center increases 1,4 times ($p \leq 0,05$) and doesn't influence on the convulsive activity.

Thus, according to the results of the pharmacological analysis with the help of substances that influence just on the activity of central cholinergic systems, we can suggest that bendazol possesses H-cholinomimetic activity with the dozes 5 and 160 mg/kg and M-cholinolilitic activity with the doze 160 mg/kg.

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LASER SILICON INTUBATION DACRYOCYSTORHINOSTOMY REOPERATIONS EFFICIENCY EVALUATION

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Topicality. Endoscopic and laser processing technologies in dacryocystitis surgery has been quickly developing since the beginning of the 90-s of the XX century. The specified technologies provided the practical application of endonasal (retrograde) and transcanalicular laser endoscopic dacryocystorhinostomy (TLED). In ophthalmosurgery the transcanalicular approach to the lacrimal sac has gained the greatest extension as its main advantages, compared to the traditional external approach, are the lack of cicatrix on skin, little traumatism and bleeding and also a more simple surgery technique. According to the integrated data of scientific literature the efficiency of primary TLED varies from 58 to 85% and the success of reoperations usually doesn't exceed 50%, the application of transient stenting at reoperations allowing achieving higher positive results.

The purpose of the work – is to study the efficiency of bi-canalicular silicon intubation application at repeated TLED.

Materials and methods. The bi-canalicular silicon intubation TLED reoperations' results

analysis was carried out in 14 patients (14 eyes) because of ineffectiveness of the primary operation. There were 4 (28,6%) men and 10 (71,4%) women. The patients' age varied from 17 to 69 years old (the average age was 43,9+3,0 years). The reoperation was carried out at terms from 3 months to 1,5 years after the primarily executed interventions (in 12 (85,7%) patients during the first year after the surgery).

The operations were carried out using diode laser OME-1150 of the firm «Endo Optics» (USA) and endoscopic apparatus «Stozz» (Germany). For the intubation of lacrimal ways we used a lacrimal set of Ritleng (F.C.I., France) and a silicon stent (diameter of 0,64 cm and 30 cm long), which was set in for 3 months. All the patients were examined within long date: in 6 months-2 years (the average term for the examination was 16,4±1,9 months).

Results and discussing. During the operation a moderate bleeding was observed in two patients (14,3%). In the early postoperative period complications took place in 3 patients in 4 cases (28,6%). In the first case (7,1%) on the 2nd day after the reoperation a rather frank irritation of the eye conjunctiva mainly in the area of medial angle, which was evaluated by us as an allergic response for the silicon drainage material, that required carrying out, besides the corticosteroid (dexametason drops) therapy, non-steroid anti-inflammatory (diclof) antiallergic (cromohexal, hi-crom) ones in the postoperative period. Though the specified treatment reduced the irritation, it didn't liquidate it completely. More over, a granulation polyp (7,1%) located in the nasal cavity at the edge of the formed inosculation was detected in the specified patient in 1,5 months after the reoperation. It gave occasion to the prescheduled and constrained elimination of the silicon stent, whereafter the intubation granuloma was removed by forceps under local anaesthesia and endoscopic control.

At the stage of bi-canalicular intubation technique mastering the silicon drainage ends decoupling followed by its falling out (7,1%) was observed in 1 patient in 10 days after the reoperation, that didn't influence negatively the surgery result. In our opinion, the specified complication was caused by a reflex sneezing and coughing of the patient owing to periodic depression of free and relatively long ends of the silicon stent into the nasopharynx.

In the other case in 2 months after the surgery the breakdown of both lacrimal points and canaliculi (7,1%) followed by the adhesion of eyelids' skin and the lips of the incised canaliculi was registered.

By the day of release the functional result had been achieved in all the patients. At long date (up to 2 years) a positive effect with the recovery after the reoperation with bi-canalicular silicon intubation was registered in 11 patients or in 78,6% of the cases. The backsets of purulent dacryocystitis occurred in 11 patients (21,4%) in 2, 3 and 18 months after the reoperation accordingly, in 2 of the given three patients the backsets being connected with the silicon stent implantation. In one case the backset was observed after the lacrimal canaliculi eruption with medial migration of the intubation material, in the other one – in the patient with an allergic response to the silicon drainage and the granuloma formation in the inosculation area.

The reoperation with the use of transient drainage was executed for a third time and with a partial success in 2 patients.

Conclusions

1.In long date (up to 2 years) after the repeated transcanalicular laser dacryocystorhinostomy with transient bi-canalicular silicon intubation a positive result was registered in 78,6 % of the cases.

2.Complications in the early period of the given surgery (intubation granuloma, lacrimal points and canaliculi eruption, allergic response on the silicon drainage, stent falling out) were observed in almost 1/3 of the patients. Taking into account this fact the search for more perfect intubation materials remains topical. In our opinion, a biodegradable (resolving) drainage can be optimal in this respect.

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THE STUDY OF MECHANISMS OF OPHTHALMOPATHY DEVELOPMENT AT PERSONS WORKING UNDER CONDITIONS OF ACOUSTIC VIBRATIONS

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According to the absolute majority of experts on a labour safety, acoustic vibrations are the most sanitary dangerous factors of industrial environment. There is some information about some ocular characteristics as a result of mechanic acoustic vibration influence. However, it should be noted that preventives and correction methods of unfavourable effects of acoustic vibrations on the visual analyzer haven't been worked out yet, owing to pathogenetic mechanisms of acoustic ophthalmopathy development.